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1 A fast method for identifying graphical objects in large engineering drawings

Chakraborty, A.;

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1 [Multimedia document presentation, information extraction, and document formation in MINOS: a model and a system](#)

S. Christodoulakis, M. Theodoridou, F. Ho, M. Papa, A. Pathria

December 1986 **ACM Transactions on Information Systems (TOIS)**, Volume 4 Issue 4

Full text available: pdf(3.16 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

MINOS is an object-oriented multimedia information system that provides integrated facilities for creating and managing complex multimedia objects. In this paper the model for multimedia documents supported by MINOS and its implementation is described. Described in particular are functions provided in MINOS that exploit the capabilities of a modern workstation equipped with image and voice input-output devices to accomplish an active multimedia document presentation and browsing within docu ...

2 [Ubiquitous hypermedia: Integrating the web and the world: contextual trails on the move](#)

Frank Allan Hansen, Niels Olof Bouvin, Bent G. Christensen, Kaj Grønbaek, Torben Bach Pedersen, Jevgenij Gagach

August 2004 **Proceedings of the fifteenth ACM conference on Hypertext & hypermedia**

Full text available: pdf(3.41 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents applications of HyCon, a framework for context aware hypermedia systems. The HyCon framework encompasses annotations, links, and guided tours associating locations and RFID- or Bluetooth-tagged objects with maps, Web pages, and collections of resources. The user-created annotations, links and guided tours, are represented as XLink structures, and HyCon introduces the use of XLink for the representation of recorded geographical paths with annotations and links. The HyCon archi ...

Keywords: SVG, XLink, context aware hypermedia, open hypermedia

3 [Books and reading: A document corpus browser for in-depth reading](#)

Eric Bier, Lance Good, Kris Popat, Alan Newberger

June 2004 **Proceedings of the 2004 joint ACM/IEEE conference on Digital libraries**

Full text available: pdf(164.61 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index](#)

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Software tools, including Web browsers, e-books, electronic document formats, search engines, and digital libraries are changing the way people read, making it easier for them to find and view documents. However, while these tools provide significant help with short-term reading projects involving small numbers of documents, they provide less help with longer-term reading projects, in which a topic is to be understood in depth by reading many documents. For such projects, readers must find and m ...

Keywords: bookplex, computer-aided reading, digital library, document management, spatial memory, visualization, zoomable user interface

4 Modelling experience: Computational models for experiences in the arts, and multimedia

Harini Sridharan, Hari Sundaram, Thanassis Rikakis

November 2003 **Proceedings of the 2003 ACM SIGMM workshop on Experiential telepresence**

Full text available:  pdf(601.92 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper, we develop formal computational models for three aspects of experiential systems for browsing media -- (a) context (b) interactivity through hyper-mediation and (c) context evolution using a memory model. Experiential systems deal with the problem of developing context adaptive mechanisms for knowledge acquisition and insight. Context is modeled as a union of graphs whose nodes represent concepts and where the edges represent the semantic relationships. The system context is the u ...

Keywords: art, context, experiential models, hyper-mediation, implications, semantic nets, wordNet

5 Towards constructive text, diagram, and layout generation for information presentation

John Bateman, Jörg Klein, Thomas Kamps, Klaus Reichenberger

September 2001 **Computational Linguistics**, Volume 27 Issue 3

Full text available:  pdf(3.64 MB)  Additional Information: [full citation](#), [abstract](#), [references](#)
[Publisher Site](#)

Combining elements appropriately within a coherent page layout is a well-recognized and crucial aspect of sophisticated information presentation. The precise function and nature of layout has not, however, been sufficiently addressed within computational approaches; attention is often restricted to relatively local issues of typography and text-formatting, leaving broader issues of layout unaddressed. In this paper we focus on the selection and function of layout in pages that appropriately comb ...

6 Versioning and fragmentation: Automatic detection of fragments in dynamically generated web pages

Lakshmish Ramaswamy, Arun Iyengar, Ling Liu, Fred Douglass

May 2004 **Proceedings of the 13th international conference on World Wide Web**

Full text available:  pdf(268.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Dividing web pages into fragments has been shown to provide significant benefits for both content generation and caching. In order for a web site to use fragment-based content generation, however, good methods are needed for dividing web pages into fragments. Manual fragmentation of web pages is expensive, error prone, and unscalable. This paper proposes a novel scheme to automatically detect and flag fragments that are cost-effective cache units in web sites serving dynamic content. We consider ...

Keywords: L-P fragments, dynamic content caching, fragment detection, fragment-based caching, shared fragments

7 Posters: DANTE: annotation and transformation of web pages for visually impaired users

Yeliz Yesilada, Simon Harper, Carole Goble, Robert Stevens

May 2004 **Proceedings of the 13th international World Wide Web conference on Alternate track papers & posters**

Full text available:  pdf(30.98 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most Web pages are designed for visual interaction so the mobility, or ease of travel, of visually impaired Web travellers is reduced [2]. Objects that support travel and mobility are not in an appropriate form for nonvisual interaction. Our goal is to enhance the mobility of visually impaired Web travellers by annotating pages with a travel ontology that aims to encapsulate rich structural and navigational knowledge. We propose a semi-automated tool 'Dante' which aims to analyse Web pages to ex ...

Keywords: mobility, semantic annotation, tool, travel, visual impairment

8 Image Retrieval from the World Wide Web: Issues, Techniques, and Systems

M. L. Kherfi, D. Ziou, A. Bernardi

March 2004 **ACM Computing Surveys (CSUR)**, Volume 36 Issue 1

Full text available:  pdf(294.13 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

With the explosive growth of the World Wide Web, the public is gaining access to massive amounts of information. However, locating needed and relevant information remains a difficult task, whether the information is textual or visual. Text search engines have existed for some years now and have achieved a certain degree of success. However, despite the large number of images available on the Web, image search engines are still rare. In this article, we show that in order to allow people to profi ...

Keywords: Image-retrieval, World Wide Web, crawling, feature extraction and selection, indexing, relevance feedback, search, similarity

9 Automated techniques for managing collections: Managing distributed collections: evaluating web page changes, movement, and replacement

Zubin Dalal, Suvendu Dash, Pratik Dave, Luis Francisco-Revilla, Richard Furuta, Unmil Karadkar, Frank Shipman

June 2004 **Proceedings of the 2004 joint ACM/IEEE conference on Digital libraries**

Full text available:  pdf(329.43 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Distributed collections of Web materials are common. Bookmark lists, paths, and catalogs such as Yahoo! Directories require human maintenance to keep up to date with changes to the underlying documents. The Walden's Paths Path Manager is a tool to support the maintenance of distributed collections. Earlier efforts focused on recognizing the type and degree of change within Web pages and identifying pages no longer accessible. We now extend this work with algorithms for evaluating drastic changes ...

Keywords: change detection, collection management, document location

10 Image retrieval, users and usability: A search engine for historical manuscript images

Toni M. Rath, R. Manmatha, Victor Lavrenko

July 2004 **Proceedings of the 27th annual international conference on Research and development in information retrieval**

Full text available:  pdf(346.95 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many museum and library archives are digitizing their large collections of handwritten historical manuscripts to enable public access to them. These collections are only available in image formats and require expensive manual annotation work for access to them. Current handwriting recognizers have word error rates in excess of 50% and therefore cannot be used for such material. We describe two statistical models for retrieval in large collections of handwritten manuscripts given a text query. Bo ...

Keywords: handwriting retrieval, historical manuscripts, relevance models

11 **Improving interaction: MADCOW: a multimedia digital annotation system**

Paolo Bottoni, Roberta Civica, Stefano Levialdi, Laura Orso, Emanuele Panizzi, Rosa Trinchesi
May 2004 **Proceedings of the working conference on Advanced visual interfaces**

Full text available:  pdf(396.57 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Digital annotation of multimedia documents adds information to a document (e.g. a web page) or parts of it (a multimedia object such as an image or a video stream contained in the document). Digital annotations can be kept private or shared among different users over the internet, allowing discussions and cooperative work. We study the possibility of annotating multimedia documents with objects which are in turn of multimedial nature. Annotations can refer to whole documents or single portions t ...

Keywords: annotation, multimedia document, plug-ins

12 **Web site analysis and customization: Practical semantic analysis of web sites and documents**

Thierry Despeyroux

May 2004 **Proceedings of the 13th international conference on World Wide Web**

Full text available:  pdf(90.93 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)




As Web sites are now ordinary products, it is necessary to explicit the notion of quality of a Web site. The quality of a site may belinked to the easiness of accessibility and also to other criteria such as the fact that the site is up to date and coherent. This last quality is difficult to insure because sites may be updated very frequently, may have many authors, may be partially generated and inthis context proof-reading is very difficult. The same piece of information may be found in differ ...

Keywords: XML, consistency, content management, formal semantics, information system, knowledge management, logic programming, quality, web engineering, web site evolution, web sites

13 **Fluid interaction techniques for the control and annotation of digital video**

Gonzalo Ramos, Ravin Balakrishnan

November 2003 **Proceedings of the 16th annual ACM symposium on User interface software and technology**

Full text available:  pdf(3.03 MB)  mov(5:20 MIN)  wmv(5:20 MIN) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We explore a variety of interaction and visualization techniques for fluid navigation, segmentation, linking, and annotation of digital videos. These techniques are developed

within a concept prototype called *LEAN* that is designed for use with pressure-sensitive digitizer tablets. These techniques include a transient position+velocity widget that allows users not only to move around a point of interest on a video, but also to rewind or fast forward at a controlled variable speed. We also ...

Keywords: annotations, fluid interaction techniques, pen-based interfaces, video

14 Versioning and fragmentation: Fine-grained, structured configuration management for web projects

Tien Nhut Nguyen, Ethan Vincent Munson, Cheng Thao

May 2004 **Proceedings of the 13th international conference on World Wide Web**

Full text available:  pdf(698.15 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Researchers in Web engineering have regularly noted that existing Web application development environments provide little support for managing the evolution of Web applications. Key limitations of Web development environments include line-oriented change models that inadequately represent Web document semantics and in ability to model changes to link structure or the set of objects making up the Webapplication. Developers may find it difficult to grasp how the overall structure of the Web applica ...

Keywords: software configuration management, version control, web engineering

15 Classroom BRIDGE: using collaborative public and desktop timelines to support activity awareness

Craig H. Ganoe, Jacob P. Somervell, Dennis C. Neale, Philip L. Isenhour, John M. Carroll, Mary Beth Rosson, D. Scott McCrickard

November 2003 **Proceedings of the 16th annual ACM symposium on User interface software and technology**

Full text available:  pdf(920.15 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Classroom BRIDGE supports activity awareness by facilitating planning and goal revision in collaborative, project-based middle school science. It integrates large-screen and desktop views of project times to support incidental creation of awareness information through routine document transactions, integrated presentation of awareness information as part of workspace views, and public access to subgroup activity. It demonstrates and develops an object replication approach to integrating synchron ...

Keywords: CSCL, CSCW, activity awareness, large screen display, multiple-device system, timeline interface

16 Structural computing: Unifying structure, behavior, and data with themis types and templates

William Van Lepthien, Kenneth M. Anderson

August 2004 **Proceedings of the fifteenth ACM conference on Hypertext & hypermedia**

Full text available:  pdf(332.32 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Structural computing evolved from work on open hypermedia to aid in the creation of software infrastructure. Open hypermedia had produced software that provided applications with access to hypermedia structures and services. The question was asked if these results could be generalized to create similar tools for other domains. Initial work focused on the development of structure servers that can create and manipulate domain-specific structures, but little work focused on allowing those structure ...

Keywords: Chimera, Themis, structural computing, templates, types

17 System papers: interface generation and annotation tools: A visual interface for a multimodal interactivity annotation tool: design issues and implementation solutions

Mykola Kolodnytsky, Niels Ole Bernsen, Laila Dybkjær

May 2004 **Proceedings of the working conference on Advanced visual interfaces**

Full text available:  pdf(113.00 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper discusses the user interface design for the NITE WorkBench for Windows (NWB) which enables annotation and analysis of full natural interactive communicative behaviour between humans and between humans and systems. The system enables users to perceive voice and video data and control its presentation when performing multi-level, cross-level and cross-modality annotation, information visualisation for data coding and analysis, information retrieval, and data exploitation.

Keywords: data annotation tools, data visualisation, interface design

18 Foundations: How much is too much in a hypertext link?: investigating context and preview -- a formative evaluation

Simon Harper, Yeliz Yesilada, Carole Goble, Robert Stevens

August 2004 **Proceedings of the fifteenth ACM conference on Hypertext & hypermedia**

Full text available:  pdf(472.86 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A high quality of free movement, or mobility, is key to the accessibility, design, and usability of many 'common-use' hypermedia resources (Web sites) and key to good mobility is context and preview. This is especially the case when a hypertext anchor is inaccurately described or is described out of context as confusion and disorientation can ensue. Mobility is similarly reduced when the link target of the anchor has no relationship to the expected information present on the hypertext node (Web ...

Keywords: document engineering, evaluation, hypertext, web mobility

19 XML and multilingual document authoring: convergent trends

Marc Dymetman, Veronika Lux, Aarne Ranta

July 2000 **Proceedings of the 17th conference on Computational linguistics - Volume 1**

Full text available:  pdf(630.66 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Typical approaches to XML authoring view a XML document as a mixture of structure (the tags) and surface (text between the tags). We advocate a radical approach where the surface disappears from the XML document altogether to be handled exclusively by rendering mechanisms. This move is based on the view that the author's choices when authoring XML documents are best seen as language-neutral semantic decisions, that the structure can then be viewed as interlingual content, and that the textual ou ...

20 Security and privacy: Securing web application code by static analysis and runtime protection

Yao-Wen Huang, Fang Yu, Christian Hang, Chung-Hung Tsai, Der-Tsai Lee, Sy-Yen Kuo

May 2004 **Proceedings of the 13th international conference on World Wide Web**

Full text available:  pdf(2.67 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Security remains a major roadblock to universal acceptance of the Web for many kinds of transactions, especially since the recent sharp increase in remotely exploitable vulnerabilities have been attributed to Web application bugs. Many verification tools are

discovering previously unknown vulnerabilities in legacy C programs, raising hopes that the same success can be achieved with Web applications. In this paper, we describe a sound and holistic approach to ensuring Web application security. Vi ...

Keywords: information flow, noninterference, program security, security vulnerabilities, type systems, verification, web application security

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